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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-----------------------|---------------------|------------------|
| 09/835,620  | 04/17/2001  | Yoshihiro Takashimizu | 1086.1145           | 7539             |
| 21171   | 7590        | 07/11/2005            | EXAMINER            |                  |
| STAAS & HALSEY LLP<br>SUITE 700<br>1201 NEW YORK AVENUE, N.W.<br>WASHINGTON, DC 20005 |             |                       | DIVINE, LUCAS       |                  |
|   |             |                       | ART UNIT            | PAPER NUMBER     |
|   |             |                       | 2624                |                  |

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                        |  |
|------------------------------|------------------------|------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b>    |  |
|                              | 09/835,620             | TAKASHIMIZU, YOSHIHIRO |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>        |  |
|                              | Lucas Divine           | 2624                   |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 29 March 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 3,5-8,11-14,16 and 18-24 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 7,8,11-14 and 18-24 is/are rejected.  
 7) Claim(s) 3,5,6 and 16 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 17 April 2001 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Claims 3, 5 – 8, 11 – 14, 16, and 18 – 24 are pending, claims 1, 2, 4, 9, 10, 15, 17, and 25 have been canceled.

2. The reply filed on 3/29/05 is not fully responsive to the prior Office Action because of the following omission(s) or matter(s) that applicant failed to amend for or mention in remarks:

- a. Item 2 of original action (now item 6) objecting to abstract for an incorrect word.
- b. Item 3 of original action (now item 7) objecting to the drawings because a line in 17B does not have a corresponding line in 17A.
- c. Item 15 of original action (now item 11) rejecting claim 21 under 35 U.S.C. § 112, second paragraph.
- d. Item 17 b) of original action (now item 12 b)) rejecting claims 7-14 and 17-19 (now 7, 8, 11, 12, 13, 20, 21, 22, 23, 24, 14, 18, 19) under 35 U.S.C. § 112, second paragraph.

Since no amendment, argument, or acknowledgement of these items, they are all maintained below.

3. In regards to original item 18 (now item 13), applicant has amended claim 7 to overcome the rejection. Applicant has not amended claims 13, 14, 18, or 19 which include the same rejected limitation and has not made any remarks specifically about item 18. Therefore, the rejections on claims 13, 14, 18, and 19 are maintained.

4. Items 1, 4, 5, 6, 7, 8, 9, 11, 13, 14, 16, 17 c) and 19 – 26 of original non-final action are withdrawn due to clarifying amendments and persuasive remarks.

***Response to Arguments***

5. Applicant's arguments filed 3/29/05 have been fully considered but they are not persuasive.

With respect to applicant's arguments on page 10 referring to item 10 (the objection about pixel size) that Figs. 42A-C show pixel sizes changing (now item 8).

In reply, applicant cites that the cells are the squares, and the dots in the cells are the pixels. Examiner submits that the squares are the pixels, and the black inside the pixel is an amount of black or a dot. If the pixel sizes were reduced, the overall pixel count would have to increase for displaying and printing. This objection was recommended by Primary Examiners.

Further, *in the amended claims, applicant has changed some of the language in some of the claims to use ‘dot’ language.* This ‘dot’ language is very appropriate, and thus it appears that while applicant argues the objection, applicant also makes some changes to overcome the objection. ‘Dot’ language as submitted by applicant clearly explains that what is being reduced is the dot in the pixel, the amount of black or black intensity as clearly shown in Figs. 42A-C.

Examiner strongly suggests making the claims uniform with ‘dot’ language to overcome this objection. *See amended claim 7 for an example of using ‘dot’ language uniformly.* Currently, some claims include ‘dot’ language, some claims do not, and some claims have both

pixel and ‘dot’ language, which is confusing and has led to another objection below necessitated by the amendment (item 8).

With respect to applicant’s argument on page 10 regarding the term substantially (in item 12 of original action – now item 10) and that it is understood by those skilled in the art.

In reply, amended claims 7 and 18 recite ‘substantially vertical vertical-line patterns’ and ‘substantially horizontal horizontal-line patterns’. These limitations are vague and indefinite because one of ordinary skill would not know what substantially vertical or horizontal would be and the specification fails to clearly point out the distinction between being substantially vertical or horizontal and not. While Figs. 31, 32, and 33 show examples of vertical and horizontal line patterns, they are not definite as to what types of patterns are included in the phrase ‘substantially vertical or horizontal’.

An example of why substantially is a vague and indefinite term is that *a person does not know where the difference in horizontal or vertical is between substantial and non-substantial*. Is a 10° horizontal line substantially horizontal? 20°? 25°? 90°? One skilled in the art can guess, but if a guess must be set forth, the claim is not clear or definite.

The closest dictionary definition (from American Heritage College Dictionary, page 1376) for substantial in a phrase ‘substantially horizontal’ could be “**true or real**” or “**ample**” or “**essential**”. It is unclear which of these would most apply to the horizontal-lines of applicant. If ample, when is a horizontal line amply horizontal? The cut-off is not clear or definite for the claims. If true, it is unclear if applicant is claiming only horizontal lines that are ‘truly’ horizontal. If essential, when is a horizontal line essentially horizontal? Is 5° from horizontal

still essentially horizontal? The Authoritative Dictionary of IEEE Standards Terms (page 1122) lists substantial as meaning: "**So constructed and arranged as to be of adequate strength and durability for the service to be performed under the prevailing conditions.**" It is not clear from this definition what is 'adequate' or if such a term can be applied to lines. Both the Microsoft Computer Dictionary, fifth edition, and Delmar's Dictionary of Digital Printing and Publishing (both dictionaries for those in the relevant art) do not include a definition, thus indicating the term 'substantially' is not commonly used in the relevant art.

Thus, Examiner submits that one skilled in the art would not clearly or definitely understand this term as applied to the claims and the rejection is maintained.

With respect to applicant's argument on page 10 regarding methods other than error variance method (in item 17 a) of original action – now item 12 a)) and that they are known by those skilled in the art.

In reply, the claim describes detecting patterns according to a method which is **not** an error-variance method without describing what method the binary processing is according to.

Further, applicant's specification does not give examples or explain what would classify as a method 'other than an error-variance method'. Methods not other than an error-variance method could be any method of doing anything, and it is unclear and indefinite as to what the applicant is claiming. For example, are the patterns then specific to a method of riding a bike or a method of generating a jpeg image from a gif image?

Thus, Examiner submits that one skilled in the art would not clearly or definitely understand what is claimed and the rejection is maintained.

### *Specification*

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The abstract of the disclosure is objected to because the second corrector unit 'defects.'

This word should be 'detects' based on the nature of the specification. Correction is required.

See MPEP § 608.01(b).

### *Drawings*

7. The drawings are objected to because the line output from the 'third corrector unit' 104 in Fig. 17B does not have a corresponding line in Fig. 17A.

### *Claim Objections*

8. Claims 3, 5, 6, 11, 12, 14, 16, 18 and 19 are objected to because of the following informalities: the pixel size is not reduced or distributed (as shown in Figs. 42A, 42B, and 42C). The pixel intensity is reduced and distributed. These claims all refer to pixel size reduction. A

suggested correction would be changing “pixel size” to “pixel intensity” or “dot size” (as used by applicant in amendment). Appropriate correction is required.

9. Claims 11, 12, 14, 16, 18, and 19 are objected to because of the following informalities: the total claim (including any parent claims) include both isolated pixel/pixel size AND isolated dot/dot size language. These claims should have uniform language in order to make the claims understandable and clear. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 7, 8, 11, 12, 13, 18, and 20 – 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 7 and 18, claims 7 and 18 recite ‘substantially vertical vertical-line patterns’ and ‘substantially horizontal horizontal-line patterns’. These limitations are vague and indefinite because one of ordinary skill would not know what substantially vertical or horizontal would be and the specification fails to clearly point out the distinction between being substantially vertical or horizontal and not. While Figs. 31, 32, and 33 show examples of vertical

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and horizontal line patterns, they are not definite as to what types of patterns are included in the phrase ‘substantially vertical or horizontal’.

Regarding claims 8, 11, 12, 13, and 20 – 24, these claims are all dependent from independent claims with the indefinite limitation, thus inheriting the limitation. Therefore, these claims are rejected for the same reasons as stated above.

11. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 21, in page 111 lines 10-11, the applicant claims the scale-varying processor unit “**magnifies the size of the original image to a predetermined image size**” and then further claims that the unit then “**reduces the magnified size to the predetermined size**.” If the image has been magnified to a predetermined size, the unit cannot reduce the image to ‘the’ predetermined size because it has already been magnified to that same predetermined size. The claim language is vague and indefinite because the examiner does understand if there is another predetermined size for reductions or if the predetermined size is standard for both magnification and reduction. Appropriate action is required to make the claim definite.

12. Claims 7, 8, 11 – 14, and 18 – 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 7 and 14, claims 7 and 14 recite detecting patterns “**specific to binary processing (binary coding) according to a method other than an error-variance method**”.

This phrase is vague and indefinite because one of ordinary skill cannot know what is being claimed for the following reasons:

- a) The claim describes detecting patterns according to a method which is **not** an error-variance method without describing what method the binary processing is according to.
- b) Also, ‘patterns specific to binary processing’ is not definite or particularly pointing out a type of processing or detecting since computer data is binary coded data. Thus, being specific to binary coding is too vague to limit the claim.

Examiner cannot determine what type of detection the first image-quality corrector unit is completing.

Regarding claims 18 and 19, these claims include the language of reason a) in the first corrector unit and are rejected for the same reasons as above.

Regarding claims 8, 11 – 13, and 20 – 24, which depend from claim 7, these claims are rejected based on their dependence on rejected claim 7, thus inheriting rejected limitations.

13. Claims 13, 14, 18 and 19 are rejected under 35 U.S.C. 112, **first paragraph**, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 13, 14, 18, and 19, the applicant claims to “**by interrupting processing being performed by the second image-quality corrector unit**”. The specification

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does not disclose an interruption of the second image-quality corrector unit. As shown in Figs. 18A&B and described on pages 59-63 of the specification the applicant teaches that if the first patterns match S4, an interruption flag is set S12 (page 59 line 25). This interruption flag further prevents the second and third corrector units from performing detections and processing in decision step S5.

By setting a flag and preventing the second and third units from performing detections and processing, the system is not interrupting the processing of the second image-quality corrector unit. The second corrector unit does not begin processing so no interruption is made. Also, setting a decision flag sets up the system for a future determination, it does not immediately cause an interruption.

The disclosure therefore does not enable one of ordinary skill in the art to make and use the controller unit performing said interrupting and claim 7 is rejected for this lack of enablement.

#### *Allowable Subject Matter*

14. Claims 7, 8, 11 – 14, and 18 – 24 would be allowable if rewritten or amended to overcome the objections and rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
15. Claims 3, 5, 6. and 16 would be allowable if rewritten or amended to overcome the objections set forth in this Office action.

#### *Conclusion*

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16. Applicant's amendment necessitated the new ground(s) of objection/rejection (item 9) presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucas Divine whose telephone number is 571-272-7432. The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lucas Divine  
Examiner  
Art Unit 2624

ljd



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PRIMARY EXAMINER